

**[CLAIMS]****[Claim 1]**

A surface type heating element, comprising:

rayon-based carbon yarn emitting resistance heat,  
5 when external electricity is supplied to the rayon-based  
carbon yarn;

metallic yarn having a heat insulating function and  
an antibacterial function; and

transparent synthetic resin film serving to admit  
10 sufficient illumination, wherein

the rayon-based carbon yarn, the metallic yarn, and  
the transparent synthetic resin film each have a  
predetermined width, are laid adjacent to each other, and  
are interwoven with polyester yarn, with upper portions of  
15 strands of the rayon-based carbon yarn being connected to a  
power supply line and lower portions of strands of the  
rayon-based carbon yarn being connected to each other via a  
common connection part, thus providing a series parallel  
structure.

20 **[Claim 2]**

The surface type heating element according to claim  
1, wherein the rayon-based carbon yarn comprises rayon-  
based carbon fiber containing 99.9% carbon which is  
produced by thermally processing PAN-based carbon yarn  
25 containing 95% carbon at a predetermined temperature, and  
comprises at least one of 2200 twisted carbon fibers, 3300

twisted carbon fibers, 6600 twisted carbon fibers, and  
13200 twisted carbon fibers, each of the fibers having a  
predetermined diameter.

【Claim 3】

5           The surface type heating element according to claim  
1, wherein the metallic yarn comprises the aluminum yarn  
coated with a composition having an antibacterial function,  
and

          the transparent synthetic resin film comprises  
10 transparent PET film yarn or transparent film yarn  
containing fluorine.

【Claim 4】

          The surface type heating element according to claim  
1, further comprising:

15           a first surface coated with a radiating material to  
selectively radiate far infrared rays; and

          a second surface opposite the first surface, and  
coated with a heat blocking material that transmits visible  
rays but blocks infrared rays, wherein

20           the heat blocking material comprises an organic  
solvent or an organic polymer composition which is produced  
by dispersing a nanometer-sized metallic oxide in an  
organic matrix.

【Claim 5】

The surface type heating element according to claim 1, further comprising:

5 a mixture coating layer coated with a composition having a waterproof material, a heat insulating material, and a fire resistance material, and another composition containing silver and anions.

【Claim 6】

10 The surface type heating element according to claim 4, wherein a coating thickness of the first surface is variable such that the rayon-based carbon yarn constituting a warp of the first surface has a shape of a furrow, and the transparent synthetic resin film and the aluminum yarn constituting the warp of the first surface have a shape of a ridge.

15 【Claim 7】

A roll screen type home sauna apparatus embedded into or attached to a ceiling, and including a surface type heating element to emit heat, when electricity is supplied to the surface type heating element, the home sauna apparatus comprising:

20 a surface type heating element described in any one of claims 1 to 6;

a motor rotating in response to a control signal from an external controller;

25 a shaft roller rolling or unwinding the surface type

heating element, with a terminal of the surface type heating element being connected to the shaft roller;

a shaft roller drive unit to transmit a rotation from the motor to the shaft roller;

5 a limit regulator to detect a degree of rotation of the shaft roller drive unit, thus opening the surface type heating element at a predetermined position;

a slip ring, comprising:

a metal ring contacting the shaft roller;

10 a brush to make sliding contact with the metal ring;

an elastic part providing an elastic force to the brush; and

a slip ring connector connected to an external power supply line, wherein,

15 when the surface type heating element is unwound, electricity applied to the slip ring connector is supplied through the brush, the metal ring, and the shaft roller to the surface type heating element.

20 **【Claim 8】**

The roll screen type home sauna apparatus according to claim 7, wherein the surface type heating element comprises at least two surface type heating elements, two sheets of surface type heating elements combined with each other such that strands of the rayon-based carbon yarn acting as a warp do not overlap, for the purpose of

treating a terminal, with upper portions of the strands of the carbon yarn in the surface type heating elements being insulated from each other and being separately connected to a positive electric terminal and a negative electric terminal, and lower portions of the strands of the carbon yarn being connected to a common connection part.

【Claim 9】

The roll screen type home sauna apparatus according to claim 7, further comprising:

10 a mesh net wound around the shaft roller together with the surface type heating element, the mesh net being opened adjacent to the surface type heating element, when the surface type heating element is opened.